

WHAT IS CLAIMED IS:

1. A memory module comprising:
 - a printed circuit board;
 - a plurality of identical integrated circuits mounted in a first row and a second row onto at least one surface of the printed circuit board;
 - a control logic bus connected to the plurality of identical integrated circuits;
 - and
 - a first register and a second register connected to the control logic bus, the first register addressing the identical integrated circuits located in the first row and the second row of identical integrated circuits on a first lateral half of the at least one surface of the printed circuit board, and the second register addressing the identical integrated circuits located in the first row and the second row of identical integrated circuits on a second lateral half of the at least one surface of the printed circuit board.
2. The memory module of Claim 1, wherein the plurality of identical integrated circuits comprises Double Data Rate SDRAM.
3. The memory module of Claim 1, wherein the printed circuit board has approximate dimensions of 5.25 inches wide by 2.05 inches high.
4. The memory module of Claim 1, wherein the plurality of identical integrated circuits comprises 36 integrated circuits of type 256-Megabit SDRAM organized as 64 Meg by 4 bits.
5. The memory module of Claim 1, where in the plurality of identical integrated circuits comprises 36 integrated circuits of type 512-Megabit SDRAM organized as 128 Meg by 4 bits.
6. The memory module of Claim 1, wherein the identical integrated circuits located in the first row of the first lateral half of the at least one surface of the printed circuit board have a first orientation direction and the identical integrated circuits located in the second row of the first lateral half of the at least one surface of the printed circuit board have a second orientation direction rotated in a plane parallel to the printed circuit board by an orientation angle.

7. The memory module of Claim 6, wherein the orientation angel is approximately 180 degrees.

8. The memory module of Claim 1, wherein the identical integrated circuits located in the first row of the second lateral half of the at least one surface of the printed circuit board have a first orientation direction and the identical integrated circuits located in the second row of the second lateral half of the at least one surface of the printed circuit board have a second orientation direction rotated in a plane parallel to the printed circuit board by an orientation angel.

9. The memory module of Claim 8, wherein the orientation angle is approximately 180 degrees.